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ABSTRACT

In 1973 a study of the national primary schools was begun in Ecuador to consider effects of school and non-school factors upon student flow and achievement, to examine the relative productivity of different types of schools, and to study the costs of primary education to the family and nation. Although other variables such as teacher preparation and characteristics of schools were studied, this paper concentrates upon the socio-economic and family variables such as parent's occupation, family's educational resources, and student's attitude toward school. The researchers examined these variables as related to student achievement and dropout rate in the various types of schools. Students in grades 1, 4, and 5 from urban and rural schools responded to a questionnaire to determine socio-economic and family factors and to an instrument to determine attitudes. Responses by grades to items of the socio-economic instrument indicate trends which begin to show some system characteristics. In general, there is a trend for students in the higher grades to answer the questionnaire more positively on an ascending socio-economic scale. These data show differences which are really urban-rural. Lack of strong correlation between school factors or socio-economic status and pupil attitudes leads the author to think that attitude may be so culturally determined as to be impossible to separate from value orientations applicable to all formal organizations. (Author/ND)

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SCHOOL AND FAMILY PREDICTORS OF ACHIEVEMENT AND DROPOUT IN ELEMENTARY SCHOOLS OF A DEVELOPING COUNTRY

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It appears that non school factors are more powerful predictors of achievement than school factors at least in the U.S. The Coleman report, with the subsequent Jencks interpretation,[1] the findings to date of the Pennsylvania Quality Assessment Project[2] are examples of the research which has led us to this point. There are indications that certain school variables like teacher IQ and number of books in the classroom have some affect upon the performance of lower socio-economic class children, but it also appears that most variables which elevate the performance of low socio-economic students helps middle class students at least as much.

A powerful stimulus to study the relative effects of school and non school effects upon pupil performance has been the recognized impossibility of keeping school construction or teacher preparation apace with births. A recognition has been growing in developing countries that some means other than schools must be found to provide literacy and other skills to these who cannot be accomodated by the school system. National planning units recognize that scarce national resources can be allocated to means of mass education other than school systems, but such alternatives have to be tested and compared to school outputs before massive investments in them create new bureaucracies just as rigid and perhaps no more productive than those of the ministries of education. *

The population of Ecuador increased by over 1,500,000 people (or 35.8%) between 1960 and 1969. Some comparisons are included in Table 1, which show the characteristics of a very young population.

Table 1

Selected Population Changes From 1960 to 1969
According to Population Estimates of USAID[3]

Characteristics	1960	1969	Percentage Change 1960-1969
0-5 year olds	937,000	1,294,000	38.1%
6-11 year olds	720,000	1,021,000	41.8%
12-17 year olds	576,000	794,000	37.8%
18-64 year olds	1,965,000	2,618,000	33.2%
Total population	4,345,000	5,901,000	35.8%

The medium age fell in the decade of the 60's from over 16 to somewhat over 15. The 0-5 year group constituted 21.5% of the total population in 1960, and 22% in 1969. The primary age segment was 16.5% of the total population in 1960 and 17.3% of the total population in 1969. The productive proportion of the population (18-64 year olds) fell from 45% to 44% of the population during the decade.

These figures show the difficulty for a developing county in providing classrooms and teachers for a larger and younger population. To provide for 300,000 more primary age children in 1969 would require 7,500 classrooms at 40 students per room, and a similar number of teachers.

Introducing rational elements into national planning is seen to require the assessment of school and non-school variables upon school productivity. If non-school effects are much larger than school affects, then some more direct means of influencing literacy other than schooling may cost less and occur more rapidly. The means of experimentation with alternative education would be secondary to the first issue which is the question of which set of variables is a more powerful predictor.

The U. S. studies of effects on school productivity opened many school productivity questions for other societies. Given different value systems toward family, schooling, and occupational status, different as ascriptive behaviors, different national goal sets, and different types of educational opportunities, hypotheses about schooling and non-schooling factors would be called for in other nations. If a national school system segregates students by social economic level in types of schools, the variability between schools might well turn out to be greater than within schools. In Ecuador the middle class do not attend public schools. Hence the public schools have a more limited socio-economic distribution of students than U.S. public schools. Further, the urban-rural differences in income and life style, even among those whose children attend public schools are extreme.

In 1973 a study of the national primary schools was begun in Ecuador to study effects of school and non-school factors upon student flow and achievement, to examine the relative productivity of different types of schools, and to steady the costs of primary education to the family and the nation.

Primary schools are supported by the nation, the clients (private school), a municipality with some federal assistance, or by a religious type of analysis because of the segregation according to whether one could afford private education.

The nation is divided into three major regions: the Coast, the Sierra, and the Orient, or Amazon area. The national study of the effects of text-books in primary schools revealed that students in the Coastal region gained more in mathematics than students in the Sierra, while the reverse was true of reading. A sample slice of schools was therefore taken according to region.

Urban-rural differences appear to be great. Schools in rural areas suffer many disadvantages in teacher preparation, materials, construction, and a number of grades in the primary school. Often, there are only 4 grades to a school, while 6 are the rule in urban areas. One teacher and two teacher schools are much more common in rural areas than in urban areas. According to the textbook study cited earlier there was evidence that urban students gained more in reading and mathematics in one year than rural students.

Size of school appears to be a critical variable related to many teaching variables. The sampling design took into account number of teachers, type of school support, urban-rural location, and region of the country.

The grades selected for analysis in the study were one, four and six. Dropout occurs most massively after grade one, secondly after grade four, and finally after grade six. No figures were gathered for flow of students from grade six into the middle school which begins with grade seven.

A sample of 442 schools was taken from all the primary schools of the country. However, due to the difficulties of obtaining complete data from all schools, not all schools were represented in the presentation of all variables. For example 384 of the 442 schools had only four grades, and 263 had six grades. The sample strata were as follows: for urban areas those schools with 2-5 teachers, six teachers, 2-12 teachers and 13 or more teachers; for rural areas those schools with four grades and one teacher, four grades with 2 or 3 teachers, those schools with six grades and one teacher, six grades with 2-5 teachers, 6 teachers and seven or more teachers.

The major dependent or output variables in the study were achievement (mathematics and language), student flow (dropout, retention, and promotion),

and student attitude toward school which was measured by an alienation instrument developed by Professor Ignacio Cordova of the University of New Mexico. The attitude instrument was administered to fourth and sixth grade students.

The predictor variables consisted of socio-economic and family variables obtained by means of a questionnaire completed by pupils. Other predictor variables were sex, teacher attitude toward professional practices, teacher-held pupil control ideology, teacher preparation, pupil aptitude, and teacher opinion of administrator practices.

In this paper I will concentrate upon the socio-economic and family variables, and grade level related to pupil attitude. The other variables of the study are still being processed as of this writing.

The socio-economic information was gathered by means of a questionnaire administered to students in grades 1, 4 and 6. All items were read to the first grade students, and the items were constructed in very simple language. First grade reading ability obviously present some reliability problems, but the variances in the first grade responses did not differ greatly from those of grade four. Nor did the responses vary much from what the teachers expected or knew about their home conditions.

A comparison of means and standard deviations for each socio-economic variable and cluster of variables follows. The comparison is of all first, all fourth, and all sixth grade classrooms in the national sample.

Table 2

Mean Responses of Ecuadorean Primary Students
by Grades to Items of Socio-Economic Instrument

Number of Item in the Instrument	Variable Concept	First Grade K=442 Mean	Fourth Grade K=384 Mean	Sixth Grade K=283 Mean
1	% males	51.00	53.00	54.00
2	Mean age	7.13	11.01	12.80
5	Mean Occupational level of father	1.45	1.56	1.62
8	Family Dynamics Scale	2.04	2.22	2.34
9	% living with parents	92.00	94.00	94.00
10	% report living in a home other than the family's own	12.00	9.00	7.00
15	Mean number of rooms with dirt floors	.79	1.07	.91
19	Mean number of bedrooms in home	1.37	1.62	1.84
20	Mean number of bathrooms in home	.33	.50	.53
21	% reporting kitchen separate from other rooms	76.00	77.00	77.00
31	Mean number of people who are reported to sleep in the same room	3.58	3.21	3.19
32	Mean number of people who are reported to sleep in the same bed	2.41	2.20	2.02
37	% reporting having puzzles in home	4.00	8.00	9.00
38	% who say they work outside the home after school	26.00	43.00	44.00

Number of Item in the Instrument	Variable Concept	First Grade K=442 Mean	Fourth Grade K=384 Mean	Sixth Grade K=283 Mean
54	Frequency reported of brothers and sisters reading books and newspapers	1.95	2.28	2.37
55	% who answer that the school prepares you for working	89.00	89.00	94.00
56	% reporting that Spanish is spoken at home	86.00	86.00	93.00
65	% reporting use of shoes and stockings	32.00	40.00	49.00
68	% who plan to continue schooling	44.00	50.00	57.00

These data are means of classes within schools; they are not aggregates of individuals over the system. The number of classes drops with each successive grade, because many rural schools do not have more than 4 grades. Schools with six grades are more likely to be in the urban areas.

Responses to the above items show that there is a trend for students in higher grades to answer more positively on an ascending socio-economic scale. While it must be kept in mind that nearly all of these students are of the lower socio-economic class, there is a range in this class, and apparently the longer one stays in school the higher in the lower socio-economic class the student is apt to be located.

Differences in most items may not be statistically significant but there is a trend which begins to show some system characteristics. Let me, without making too much of these, talk about some of the apparent, if not significant, differences. The data for item 5, occupation level, is a sign that there is a somewhat higher mean for students as they stay in the system.

This is to be expected in a country where the local schools are likely to be incomplete. Hence, these data may show differences which are really urban-rural. But the urban poor appear to have more advantages than the rural poor. The lowest point in the scale is rural laborer; the highest is professional. A score between one and two points on the scale would indicate that the student body responses indicate students have fathers where mean occupation is between rural laborer (1 on the scale) and unskilled laborer or handyman which would be a 2 on the scale.

The higher the grade the higher percentage male the student body, as shown in number 1 of the socio-economic instrument. More value is placed on an education for the male, especially in rural areas. There is more need for girls to help at home, and to work elsewhere as maids, even in these grades. By grade six, 54% of the students were male.

The mean age item (#2) is interesting in that the legal entrance age for 1st grade students is 6. The standard deviation for that grade is 1.45 years. By grade four, instead of adding roughly 3 years to arrive at the mean, the mean of 11.01 is nearly 4 years above the 1st grade mean. While these are different students in grades 1 and 4, one can see that there was likely considerable repetition in some grades. Anyone who knows the Ecuadorean system realizes this to be a fact. The standard deviation of 1.32 for grade 4 is slightly less than for grade 1. The age mean for sixth grade of 12.79 is more than 2 years above the 4th grade mean. The standard deviation is slightly less than for the fourth grade. As this instrument was administered the same month in all three grades, the data do show evidence of retention between grades 4 and 6.

The likelihood of mother and father answering the child's questions about school, playing with and spending time with the child are reflected

in the eighth item. This item is actually a composite mean of seven items called the family dynamics scale.** This shows a steady rise through the three grades. The standard deviations are increasingly smaller by grade (.50 for grade 1, .40 for grade 4, .30 for grade 6). The percent of children living with parent(s) is constant across grades (item 9).

The living quarters data from item 10 show the same trend. The lower the grade, the more apt the child is to report the family living in a home other than their own. The higher the grade, the greater the mean number of bedrooms in the home (item 19), the closer one gets to the probability of a bathroom in the home (item 20), the fewer people sleeping in the same room (item 31) or in the same bed (item 32). Children in grade 4 have more rooms with a dirt floor than those in grade 1 (item 15). Since most children come from such homes, the number of rooms is the crucial index rather than the dirt floor. It is possible by grade six that fewer students live in homes with dirt floors than those in grade four. No differences were apparent by grade in the percentage of students reporting a kitchen separate from other rooms.

The higher the grade level the more students report that their siblings read books and newspapers (item 54). There is a slight difference by grade in the percentage of children reporting the presence of puzzles in the home (item 37). Spanish is the only language spoken in the home for those who have broken with the Indian culture. Sixth graders are somewhat more apt to come from such homes (item 56) than fourth or first graders. Those whose only language at home is Quichua, or both Quichua and Spanish are possibly underrepresented in the sample, which may indicate that many children from such families don't even enter grade 1.

As good an indicator of economic level as bathrooms or housing conditions is the use of shoes and stockings (item 65). The use of only shoes, no shoes, or sandals is more common for 1st graders and fourth graders. About half the sixth graders report wearing shoes and stockings. Aspirations for continuing study rises, unsurprisingly, by grade level (item 68). Most students in all grades give an optimistic response that schools do prepare one for working (item 55). This agrees with attitude data which shows students to be uncritical of the schooling experience. Going to school even for a short time does indeed help one in the job market, in which even the few occupational rewards which exist in the society go to those who are literate.

Seven composite subscales were constructed to provide information on types of walls in housing, home appliances, reading materials, literacy, health practices, and food.

The entire instrument was factor analyzed, using a varimax rotation method. Items which contributed to the variance of a factor, and which exhibited variance were grouped into subscales according to their correlations and factor weights. Items which did not contribute appreciably to the variance were eliminated from this discussion. Among the items which are not included here are frequency of eating rice and potatoes, which most students answered positively. Those two items are the most popular, and cheapest foods, followed closely by cereals. Dessert was eliminated from the factors because so few students reported eating it. Many students appeared not to be able to understand the word (postre).

The information by grade from the following subscale consists of composite means and standard deviations for the items in the subscale. Table 3 shows the means for the subscale.

Table 3

Composite Means and Standard Deviations by Grade on Subscale of Socio-economic Instrument

Number of Items in the Subscale	Subscale Variable	First Grade Mean	First Grade S.D.	Fourth Grade Mean	Fourth Grade S.D.	Sixth Grade Mean	Sixth Grade S.D.
2	% of students report having walls of cane or adobe in home	64.00	34.00	58.00	36.00	53.00	36.00
8	Appliances	.16	.23	.18	.22	.22	.25
4	Reading materials	.16	.17	.23	.18	.27	.20
6	Literacy	2.04	.50	2.25	.43	2.33	.40
4	Health	2.07	.49	2.31	.37	2.41	.33
5	Foods	2.12	.48	2.28	.34	2.36	.32

Cane or adobe walls are typical of houses of poor people. The percentage of students reporting more of the variable in the home, their daily lives, or in the family. For all other subscales, the higher the grade, the more frequently students report the variable in their home or lives.

First grade students may have less knowledge of the kind of practice or quality than students in upper grades, however. In the case of fathers and mothers reading which are portions of the literacy scale, for example, it could have happened that first grade students simply haven't been around long enough to observe whether one or both parents read. However, since all of the subscales work the same way, it is likely that the trend reported by students is accurate, if not in degree. The following list shows the items included in the subscales of Table 3. The students indicated the presence of the variable in their lives or homes in the questionnaire.

A. Subscale: walls in housing

Item Number in Scale	Concept
11	Walls of cane
12	Walls of adobe

B. Subscale: home appliances

Item Number in Scale	Concept
22	Electric light
23	Water in the house
24	Plumbing or well
25	Bathtub or toilet
26	Refrigerator
27	Telephone
29	Television
30	Phonograph

C. Subscale: reading material

Item Number in Scale	Concept
33	Book shelves
34	Magazines
35	Comic books
36	Newspapers

D. Subscale: literacy

Item Number in Scale	Concept
48	Father knows how to read
49	Father knows how to write
50	Mother knows how to read
51	Mother knows how to write
52	Father reads books and newspapers
53	Mother reads books and newspapers

E. Subscale: health practices

Item Number in Scale	Concept
60	Frequency of visits to doctor
61	Have taken medicine
62	Frequency of using toothbrush
63	Frequency of using soap

F. Subscale: foods

Item Number in Scale	Concept
72	Frequency of drinking milk
73	Frequency of eating meat
75	Frequency of eating eggs
78	Frequency of eating fruit
79	Frequency of eating vegetables

An item for radios was not included in the appliance subscale because its variance was not great and did not differ appreciably from one grade to another. It was the only appliance which more than 80% of students reported having in the home. The telephone was the least often reported appliance. The more urbanized the family the more likely they are to be able to acquire appliances.

Reading materials may be data which might have been underreported by first graders. But the apparent trend for these materials to have been reported more frequently in the houses of students in upper grades. Most reading materials are only available in urban areas.

The literacy subscale shows more frequent reading or ability to read of parents or higher grade children. The first grade students may not be as well aware of the reading habits or ability of the parents as upper grade students. Greater variability in first grade responses to this subscale may signal this condition.

Health practices show greater variability among first grade responses, and a lower mean frequency of use of health practices. This subscale is possibly not as highly related to income or occupation as the other subscales, but may be more of an index of urbanization

Use of foods, like health, may be related to urbanization. The marketing system brings foods from rural areas to market centers, so the more urban

a family, the more access it has to a range of foods, leaving out of account the ability to buy different foods.

Sixth grade students are more likely to exhibit middle class, urban responses to the items of the subscales. The mass of first grade students in Ecuador are from the lower economic classes and are rural. When the achievement data are compared with these socio-economic data a major question will be whether school or non-school factors account for more of the variance. If non-school factors are more powerful it will be interesting to determine whether school factors account for less of the first grade performance than for sixth grade.

More schooling is closely associated with urbanization. As I have pointed out, rural schools are less likely to have six grades than urban schools. Urban schools have larger enrollments, but are most likely to have one teacher working with one grade. The variability of ages in each grade is great, and it appears that a law forbidding the repetition of first graders is ignored.

The varimax rotation factor analysis of the socio-economic instrument yielded two major factors. Looking only at the first grade data the variables which contributed most heavily to the two factors are as follows:

Factor I

Item Number of Instrument	Variable	Factor Loading
5	Occupation of parent	.89
20	Number of bathrooms	.83
37	Puzzles in home	.63
65	Use shoes and stockings	.65
Composite	Walls of cane or adobe	-.55
Composite	Reading materials	.79

Factor II

Item Number of Instrument	Variable	Factor Loading
8	Family dynamics	.79
54	Brothers and Sisters read	.58
56	Speak Spanish only at home	.66
Composite	Literacy	.60
Composite	Health practices	.75
Composite	Food	.84

Factor I appears to be on socio-economic factor, with the heaviest loading being occupation of parent. The type of walls had a negative loading and was not so powerful as the others. The number of bathrooms was nearly as great a contributor to the factor as parental occupation.

Factor II appears to be more a literacy factor. Family dynamics is heavily verbal in its direction. While one can argue that both variables are apparently socio-economic, they are so only if available. Many of the variables of Factor II can be practiced more easily in an urban setting. The family dynamics variable which is a composite can be seen as a kind of urban family variable. Interactions between parents and child are more frequent if a family has electric light and the parent works hours which allow him or her time to be with the children. Rural families tend not to have electricty, to have parents who work during daylight hours, and to retire earlier.

Factor structure for grades four and six are similar to grade one. Two main factors with nearly the same components emerged for each grade.

Pupil Attitude

The pupil attitude instrument was adapted from an instrument prepared and used by Professor Ignacio Cordova of the University of New Mexico. His work with it in schools of the Southwest provided an appropriate device for adaptation to schools in Latin America. The translation of his instrument was done in Ecuador by a member of the sector analysis staff. Two items concerning fatalism or attribution were added in Ecuador.

The items yielded grade differences which while not necessarily significant statistically, give an indication of the direction of pupil attitude related to continued schooling. Grades four and six were given the instruments. The alienation instrument was administered to pupils within a day of the socio-economic instrument. Grade one was not given the instrument because of the anticipated difficulty of comprehension.

The attitude scale will be used as a dependent variable in the sector analysis. The scale can be seen as a kind of measure of alienation to school.

The item data by grade are presented in Table 4.

Table 4

Pupil Attitude Items, Showing Means and Standard Deviations of Fourth and Sixth Grade Ecuadorean Students

Item Number	Variable	Grade 4 Mean	Grade 4 S.D.	Grade 6 Mean	Grade 6 S.D.
1	I enjoy school.	2.82	.29	2.83	.34
2	School is like being at home.	2.67	.37	2.76	.30
3	If I want, I can improve my grades.	2.67	.35	2.74	.31
4	I like this year's subjects better than last year's.	2.71	.30	2.81	.24
5	If I study more, I get better grades.	2.67	.29	2.79	.25

Item Number	Variable	Grade 4 Mean	Grade 4 S.D.	Grade 6 Mean	Grade 6 S.D.
6	Most of my friends are good students.	2.53	.32	2.58	.33
7	I hope to get better grades than I have before.	2.67	.31	2.79	.29
8	School work is really interesting.	2.65	.32	2.75	.29
9	Studying will allow me to be what I want.	2.65	.32	2.77	.28
10	I have to go to school.	2.81	.24	2.91	.14
11	Do you tell the teacher what you like to do in school?	2.40	.41	2.31	.43
12	Would you like to ask and answer more questions in class?	2.62	.33	2.68	.34
13	How often do your friends participate in school activities?	2.37	.42	2.35	.44
14	Do you talk with your teacher outside class about your problems?	2.19	.44	1.92	.46
15	How often does your teacher stimulate you to improve your studies?	2.67	.28	2.76	.25
16	How often does the school let you do what you like?	2.44	.39	2.47	.39
17	My teachers know better than I what should happen in class.	2.69	.31	2.80	.27
18	My best friends are good students.	2.52	.31	2.61	.29
19	The most important qualities of a person are drive and stability.	2.38	.39	2.48	.38
20	In school I feel like a stranger.	1.82	.45	2.18	.49
21	No matter how much you study, the teacher gives whatever grades he wants to.	1.82	.48	2.19	.52
22	I don't understand how teachers grade tests or work.	1.61	.39	1.73	.41
23	The beginning of the school year is more interesting than the end.	1.43	.38	1.37	.34

Item Number	Variable	Grade 4 Mean	Grade 4 S.D.	Grade 6 Mean	Grade 6 S.D.
24	I don't think I have the ability to finish school.	1.70	.46	1.86	.54
25	I study enough in school but I don't learn much.	1.67	.42	1.81	.46
26	I'd be happier if I didn't have to go to school.	1.86	.51	2.31	.52
27	How often do you think that it would be better if you didn't have to attend school?	1.90	.48	2.19	.51
28	Do you think students are unfairly treated in school?	2.00	.50	2.29	.47
29	How often do you think you'd sooner be doing something other than going to school?	1.85	.48	2.15	.54
30	I don't worry much about how well I do in school.	1.61	.45	1.73	.48
31	Students who do everything they are told aren't very happy in school.	1.68	.44	1.76	.48
32	Making plans for the future just makes one disillusioned, because plans aren't fulfilled.	1.87	.45	2.00	.43
33	It doesn't matter what people want to do because things aren't going to change.	1.82	.46	1.91	.46
34	When one is forn, it's already decided what will be later, so it doesn't pay to fight destiny.	1.77	.44	1.61	.41
35	One who is in trouble can only depend on one's family for help.	1.64	.44	1.61	.41
36	A student's grades depend mostly on luck.	1.47	.77	1.73	82

Items 19-36 are reverse scored so that a high positive score mean disagreement with the item. The scoring scale is from 0 to 3. A score of three is the highest positive score possible.

A very positive attitude toward school is evident in the means of the responses to the first nine items. All of those are positively stated and may have elicited a response bias. The standard deviation for the first 19 items are much smaller than for the last seventeen items.

With only four exceptions, the item means for 4th grade students are lower, or less positive about school, than means for sixth grade students. The differences between grade means for the last seventeen items are greater, though probably not significantly so, statistically, than the differences between grade means for the first 19 items. If there is a response set for the first 19 items causing us to dismiss their input, we can look at the last 17 and see a tendency for sixth grade students to be more positive than fourth grade students about school related attitude. The standard deviations of fourth and sixth grades do not appear to be different.

A factor analysis of the instrument yielded two factors. The first 19 items instituted one, and the last seventeen another.

Because of the apparent response set in the first 19 and its weakness as a factor due to low variances in the items, it was decided for future use in a multiple regression approach to use only the second factor which is composed of 17 items. It may be claimed, too, that this factor may simply be the result of response set.

Some comments about the instrument are based upon observations or the culture of the Ecuadorean school. The first comment is that participants in organizations are hesitant as a rule to criticize the organization. Jobs are not easy to obtain, and entry into an organization as a professional is not easy. The participant often has primary relationships to others in the organization, otherwise entrance would have been difficult.

Primary schools have clienteles with family loyalities to that school even when that family moves across the city from the school. Parents continue to send children to "their" school. The faculty and students alike have primary loyalities to schools.

Criticism is risky for another reason. Resources are scarce, and membership in an organization is considered a privilege. If you don't like one bank, school, or office it is most difficult to affect a "transfer." Students rarely transfer within a year. Families see limited access as a reality in schools. One adapts to whatever systems one has been used to. An employee is easily let go, but does not easily obtain another job. A student will not find an easy welcome at the same grade in another school if he has left one school. Leaving an organization implies a dissatisfaction to the point of inreconcilable conflict. Open criticism is the threshold of an open break. In the Sierra the voicing of criticism is particularly risky. Only the vaguest hints of dissatisfaction can be voiced, and always must be couched in impersonal, fatalistic terms. It is the change of weather, atomic blasts in the Pacific, the erratic climate conditions like those causing the famous anchovy disappearance off Peru, social conditions in general, or the nature of government to cause personal hardships or inconvenience. One does not try to personalize these hardships by assigning them to a person or persons at a place in time. To do so would cause confrontation, and the need to depart the organization by someone, usually the protestor.

Children of poverty do not disdain school in Ecuador. No matter how dreadful by U.S. standards the schools in Ecuador might appear to be, they are places for privileged Ecuadorean children. Possibly as high as a tenth of the children do not enter a first grade anywhere even though official statistics show 19 out of 20 children in the first grade somewhere. The

costs of schooling are considerable to the average rural family whose income is about $300 U.S. per year. The typical family with children in school has four such youngsters of school age. The cost to many such families is prohibitive for all but a select one or two children. And keep in mind, the option of schooling is open only to those who have a school within walking distance--about 8 kilometers at the extreme. Many areas aren't so fortunate. Schools offer more chances for sociology, excitement, interest, and positive adult contact than the homes of poverty.

Schooling of any kind, even for a year, then, is a privilege to the poor family. They see its advantage as it really is; the skills of reading or writing, or figuring, open a great job market to the child with those skills that is incomparably better paying and variable than without schooling. It is not surprising that the pupil attitude data are so favorable to schools.

A prosperous, middle aged bachelor who has been remote from children since his childhood has proclaimed the need to deschool. He has probably never talked to a poor Andean family or with shoeshine boys, or tiny girls carrying tinier girls on their backs. His conversations have been mainly with world weary suburban U.S. high school students, whose only disadvantage has been not to be even a little disadvantaged. He may convey the ennvi of 15 million dollar suburban educational plants where smashing the windows or toilet bowels helps break the tedium. The privileged don't need the schools. The poor do. They don't have access to the "banks" of resource people found in New Trier, Newton or Polo Alto. The upper class types who can't pronounce buenos dias and the Ford Foundation types who fund his fantasies attend to the ex-monsignor on the Mountain. But the poor haven't heard him. They couldn't understand what he says. Deschooling is a very camp doctrine. It's the ultimate in trashing.

The last two items are interesting as they elicited the lowest means for sixth graders and among the lowest for fourth graders. The students are close to attribution of power outside the school or themselves as the final determinants of a person's life. Luck and family support are reality. What happens, happens, and your family is the fortress. Luck depersonalizes discomfort, so it's a painless relief from the harshness of the system. No one is to blame. It just happens. If luck is what determines class rank, why worry (item 30)? You can't really affect the outcome by trying too hard, that makes you unhappy (item 31). These 4 items are among the most fatalistic, or attributive to forces outside the person or the system and have elicited the most negative responses from the pupils. And the younger students are more fatalistic than the older ones. Those who stay in after the watershed of grade 4 have to believe a little less in fatalism if they are to survive two more years. After grade four the drop out is so heavy as to allow consideration of grades five and six as the elect students of the lower class. Those who survive through grade six are indeed lucky. Fatalism is in fact a good definition of alienation toward school. If school were so helpful why would you need luck to get ahead? And those who have luck have it in school as well as elsewhere. School is just another place where external forces rule and have their mysterious ways, and man's intervention does little to affect what happens there.

While this instrument is not really satisfying statistically, it provides some hints to the Ecuadorean child's vision of school, and perhaps the attitude of a culture. A first conclusion must be that Ecuadorean poor kids don't think school is all that bad.

Preliminary correlations were made between selected socio-economic data and certain items of the student attitude instrument. In an attempt to search for the strongest items in the attitude scale, to determine which

might be most valuable in a regression matrix, a composite of nine items (19, 23, 24, 25, 28, 31, 32, and 33) of alienation were correlated with the two socio-economic factors, SES and literacy. Table 5 displays the correlations for grades four and six.

Table 5

Correlations Between Socio-Economic Factors and Alienation

Grade 4

	SES	Literacy	Attitude (9 items)
SES	1.00	.05	.09
Urban Life		1.00	- .05
Alienation			1.00

Grade 6

	SES	Literacy	Attitude (9 items)
SES	1.00	.18	.21
		1.00	.12
Alienation			1.00

Not too impressive a set of correlations between SES and literacy factors and the selected attitude items. It would appear that as a dependent variable in the sector analysis attitude will not be predicted by non-school variables. If school variables contribute more variance to this measure than non-school variables, we have the possibility that school factors might make a difference in attitude as well as in achievement. The achievement and attitude data will be correlated so that it can be determined if high achievers also have the most favorable opinions about school.

If neither school factors nor socio-economic status predicts attitude, then attitude may be so culturally determined as to be impossible to separate

from value orientations applicable to all formal organizations. I would take the chance on predicting this last possibility.

High esteem of school is possibly a lower class phenomenon in Ecuador. In the Pennsylvania Educational Quality Assessment data since 1969, there has been a significantly greater decline in attitude toward school and school related topics in well-to-do districts than in districts where the poor attend school. The poor have no other choices, so one might have expected something different, but among those who have a choice of public education for pay, the attitude toward schools has sagged most.

Whom do we take our cues from? Those who preach alternatives to public education have described largely expensive alternatives. "Free schools" are not for free, and their curriculum, according to Kozol is remarkable similar down to the color of the macrame fiber.[4] What alternatives exist for ministries of education in developing countries. To institutionalize further is an expensive route, and one which might not be too productive in terms of a larger skilled and variegated work force. To make grass roots reforms which would create the decision making base for alternatives in the villages might work its full way into revolution. More technology is an answer only for urban areas, and areas where teacher organizations are placid and docile. And the software lag always cuts short technological leaps in education.

Reform of the school may be the only answer, or may at least be necessary along with a mix of alternatives for the unschooled children and adults. School reform is no substitute for social reform, but can aid and abet social reform. The two agendas of social reform and school reform are related but do not have the same effects.

In a preindustrial economy, labor-intensive school reform requires less money than technologically-based reform. But labor-intensive school reform

is more dangerous to ruling elites as they cannot be as easily programmed. In a country where there is such an uncritical acceptance of school, if the reformers ever come to school, they will have a profound impact. Whatever seeds of revolution come with school reformers will come probably in the wake of rather than before social reform.

Schools are being reformed in Ecuador according to the lights of a centralized ministry of education and a powerful central government. On the agenda is the establishment of mucleos es colares, or school districts, where decision making is delegated to elected people. The model was established in Peru after the revolution of the late 1960's. Whatever relationship schooling and income have must ve attacked at the community level as well as at the national planning level. Poor people live in localities where they can see the school as some kind of institution to help them, but not to make them happy and rich, or even middle class. Education can help people attain certain skills and thereby a purchase on political power. But fatalism has a powerful pull and reform is not fatalistic.

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3. Agency for International Development, Bureau for Latin America, Office of Development Resources, Sector Analysis Division, Statistics for the Analysis of the Education Sector, Ecuador, October 1974, pp. 25-46.

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NOTES

* That contradiction in logic "non-formal education" so far appears to offer something of an alternative, but it is hard to compare a something with a something else, so ministries are about as puzzled as we in the U.S. are about how you compare so called "formal" with so called "informal" education. If someone can supply a definition or a better concept, perhaps we will be ready to move into an assessment of the so called "non-formal" modes, if indeed any such modes exist.

** The Family Dynamics scale consists of the following items:

82. Time you spend with father.
83. Time you spend with mother.
84. Father plays with you and your brothers and sisters.
85. Mother plays with you and your brothers and sisters.
86. Father stays at home.
89. Father teaches you and answers your questions.
90. Mother teaches you and answers your questions.